Statistical Report 1988

Sexually Transmitted Disease Control

91-04600/

Alberta
HEALTH

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Executive Summary

The 1988 report on sexually transmitted diseases (STD) in Alberta provides data on the distribution and trends of the notifiable STD as well as information on the programs for the control of STD including HIV and AIDS.

The list of notifiable STD includes non-gonococcal urethritis/mucopurulent cervicitis (NGU/MPC), *Chlamydia trachomatis*, gonorrhea, syphilis, chancroid and lymphogranuloma venereum. *Chlamydia trachomatis* as an organism specific disease became reportable December 1, 1988 and therefore statistical information is not available for 1988 except as a component of the syndrome NGU/MPC. A table of all cases of notifiable STD by age and sex can be found in Appendix 1.

The most frequently reported STD continues to be NGU/MPC with an incidence in 1988 of 475.5 per 100,000 population compared to a rate of 527.9 in 1987. The incidence of gonorrhea shows a dramatic decrease of 29% from a rate of 146.9/100,000 in 1987 to 104.2 in 1988. This downward trend reflects a worldwide decrease. A syphilis rate of 4.58 per 100,000 is the lowest on record. There were no laboratory confirmed cases of chancroid or lymphogranuloma venereum. Cases of AIDS are reportable to the Medical Officer of Health in each Health Unit District. During 1988 surveillance reported 50 new cases, a 14% increase over 1987.

The number of reports of notifiable STD in children are small. However the presence of these infections in prepubertal children should be considered an indicator of child sexual abuse until proven otherwise.

A comprehensive program for the control of STD including HIV and AIDS makes diagnostic and treatment services available through clinics in Calgary, Edmonton and a clinic in Fort McMurray operated under the auspices of the Health Unit serving that city and surrounding area. Although client use of the STD clinics was down 14.2% from 1987, access to HIV antibody testing increased in all three clinics.

Dissemination of STD information to both public and professional audiences is carried out by the education unit. The focus of this unit during 1988 was to provide information on STD and HIV/AIDS to teachers who in turn can pass this information on to their students. This was accomplished by an increase of greater than 300% in the number of sessions provided to teachers. The education unit is also responsible for information lines on STD and AIDS. 1988 was the first full year for the province wide toll-free AIDS information line. In this year the line went through a transition from being manned by professional nursing staff to a computer activated Interactive Tone System.

During 1988 the AIDS unit added a Medical Director to its staff complement. This unit continues to plan the Provincial AIDS program and to disseminate information on AIDS province wide.

The clinical investigation unit with a staff complement of one laboratory technician completed its first full year of operation and actively participated in STD related research projects.

STD Control also provides consultation to physicians and epidemiologic services that includes contact tracing. These services are carried out collaboratively by the central control office in Edmonton, the clinics and a mobile unit staffed by 5 nurses.

Incidence of Gonorrhea

A decline in the number of gonorrhea cases as well as the incidence rate was seen in 1988 over the previous year. A total of 2,536 cases, a decrease of 38%, was reported. Of this number 1,279 were attributed to males and 1,257 to females. This is a male to female ratio of 1:1 continuing the earlier trend of a proportionately increasing number of female cases. This year's rate of 104.18/100,000 is the lowest since records were established in 1950 and reflects the continuing decline of gonorrhea reported in Canada.

For the third year in a row females aged 15 – 19 had the highest age and gender specific rate of 564.92/100,000. The next highest age specific rate of 466.57/100,000 is in males aged 20 – 24 followed by females aged 20 – 24 with a rate of 414.43/100,000. These groups also showed the smallest decline in incidence over the previous year.

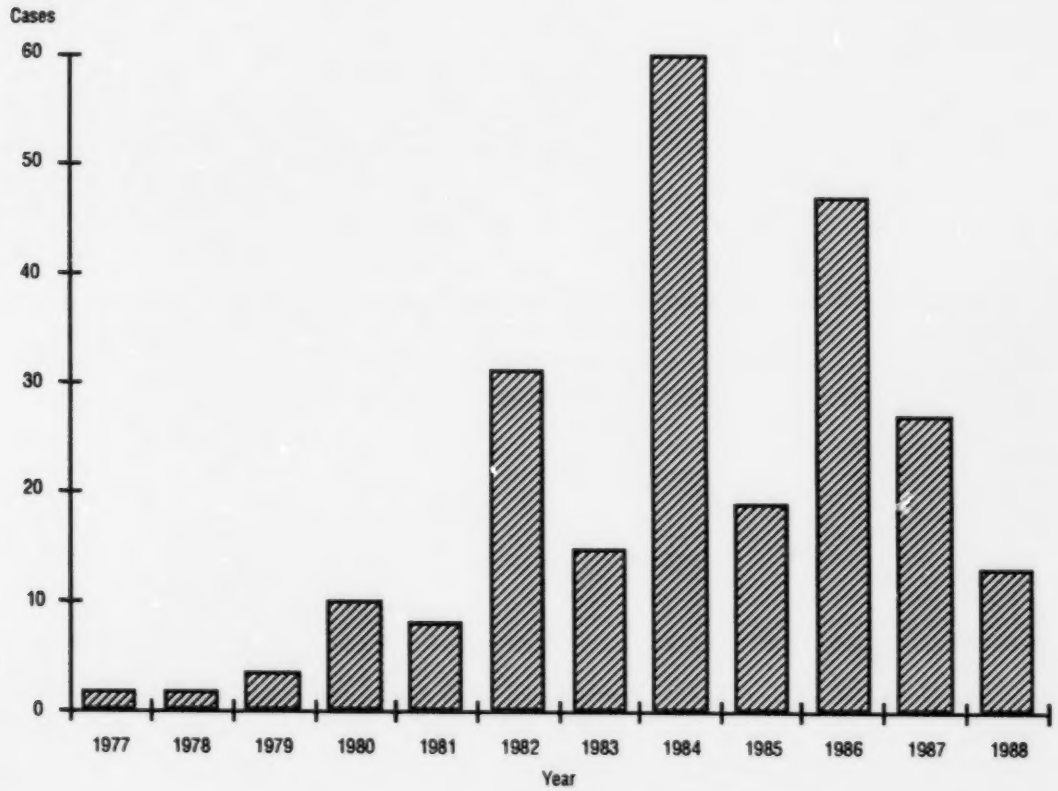
The number of cases of penicillinase producing *Neisseria gonorrhoeae* (PPNG) decreased by 52% with 13 cases reported in 1988 (Figure 1). Five of the 13 cases (38%) acquired their infection in Canada and the remaining 62% in endemic areas. Established control measures have kept these infections in check.

Table 1 Gonorrhea Cases and Rates, by Age and Sex, Alberta, 1988

	Male		Female		Total	
Age	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***
1 – 4	1		2		3	
5 – 9	1	1.36	3	9.36	4	5.26
10 – 14	2		21		23	
15 – 19	204	220.85	499	564.92	703	389.04
20 – 24	476	466.57	426	414.43	902	440.40
25 – 29	298	241.82	178	144.69	476	193.32
30 – 39	199	89.38	85	40.33	284	65.53
40 – 59	75	31.16	19	8.21	94	19.8
60+	6	4.57	3	1.89	9	3.10
Age not stated	17		21		38	
Total	**1279**	**104.68**	**1257**	**103.68**	**2536**	**104.18**

*Rate per 100,000 population

Figure 1 Cases of Penicillinase-Producing *Neisseria gonorrhoeae* (PPNG) in Alberta, 1977 – 1988



Incidence of Non-Gonococcal Urethritis/Mucopurulent Cervicitis

There were 11,567 cases of non-gonococcal urethritis/mucopurulent cervicitis reported in 1988. This is a decrease of 9% over the previous year. Of this number 4,983 cases were attributed to males and 6,584 to females giving a male to female ratio of 1:1.3. A comparable decline is noted in the incidence rate from 527.92/100,000 population to 475.46/100,000.

Females aged 15 – 19 and 20 – 24 years showed the highest age and gender specific rates. These rates are 2615.19/100,000 and 2443.81/100,000 respectively. It is also noted that with an overall decline in rates of 10%, these two groups showed less than a 1% decrease. It is these young women who are at greatest risk of developing complications associated with this infection.

Males aged 20 – 24 and 25 – 29 showed the next highest age specific rates of 1752.59 and 1020.04 respectively. In contrast to females this demonstrates a decline of 13 and 14% respectively in incidence over 1987.

Table 2 Non-Gonococcal Urethritis/Mucopurulent Cervicitis Cases and Rates, by Age and Sex, Alberta, 1988

	Male		Female		Total	
Age	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***
1 – 4	2		3		5	
5 – 9		2.74	3	27.72	3	14.9
10 – 14	6		71		77	
15 – 19	591	639.81	2310	2615.19	2901	1605.45
20 – 24	1788	1752.59	2512	2443.81	4300	2099.50
25 – 29	1257	1020.04	984	799.86	2241	910.05
30 – 39	961	431.67	507	240.60	1468	338.76
40 – 59	283	117.12	98	42.59	381	80.58
60+	18	13.71	6	3.79	24	8.29
Age not stated	77		90		167	
Total	**4983**	**406.94**	**6584**	**544.76**	**11567**	**475.46**

Incidence of Syphilis

The overall incidence of syphilis in 1988 was 4.58 per 100,000 population. The previous low of 5.7 per 100,000 was recorded in 1976. There was a total of 110 cases, a decrease of 17% from 132 cases in 1987. Of the total cases, 40 (36%) were staged as infectious (primary, secondary, early latent) with the remaining 70 (64%) being non infectious. Compared to 1987 this is an 80% increase in the number of infectious cases. This can be attributed to a controlled outbreak in the city of Calgary where 29 of the 40 cases occurred.

Thirty one of the 40 cases of infectious syphilis were reported in males. The male to female ratio of infectious cases is 3.4:1 whereas for non infectious syphilis the ratio is 1.9:1. Homosexual/bisexual men accounted for 55% of the male cases of infectious syphilis. Although this represents only 17 cases, it is disturbing that individuals in this very high risk group continue to practice unsafe sex. The three highest age and gender specific rates are all found in males aged 30 – 39 followed by 20 – 24 year olds and 25 – 29 year olds.

Table 3 Syphilis Cases and Rates, by Age and Sex, Alberta, 1988

	Male		Female		Total	
Age	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***
15 – 19	6	2.05	2	0.72	8	1.40
20 – 24	9	9.74	2	2.26	11	6.08
25 – 29	10	8.11	4	3.25	14	5.68
30 – 39	26	11.67	7	3.32	33	7.61
40 – 59	17	7.03	10	4.32	27	5.71
60+	9	6.85	8	5.05	17	5.87
Total	**77**	**6.38**	**33**	**2.76**	**110**	**4.58**

*Rate per 100,000 population

Notifications by Reporting Agency

Since non-gonococcal urethritis/mucopurulent cervicitis became reportable in 1985, there has been a steady increase in the number of notifications received from physicians for these infections. In 1988 there were 6,940 physician notifications of NGU/MPC, an increase of 2.5% over the previous year. This ongoing increase in reporting likely indicates increased recognition by physicians of the importance of NGU/MPC as an STD. Laboratory notification of an additional 606 cases of *Chlamydia trachomatis*, where no physician notification was received, are attributable to physician diagnosed cases. STD clinics notified 4016 cases of NGU/MPC or 35% of the total.

With the decrease in incidence of gonorrhea, there is also a decrease in the number of notifications from all sectors. The clinics combined notified a total of 693 cases, a decrease of 42% from 1987. Similarly there was a 37% decrease in notifications from physicians which accounted for 72.5% of the total.

Compared to physicians the STD clinics notify a proportionately higher number of males than females as demonstrated in figure 4. This is particularly apparent for NGU/MPC and likely reflects service access previously recognized.

Figure 2 Percentage of Reported Cases of Non-Gonococcal Urethritis/Mucopurulent Cervicitis, by Reporting Agency, Alberta, 1988

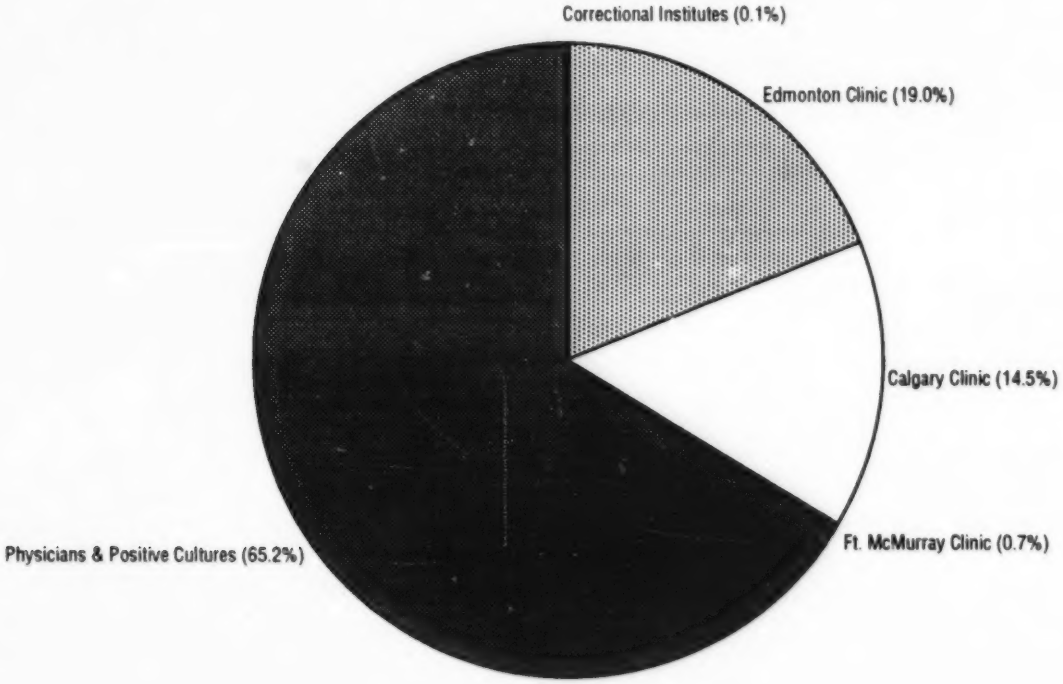


Figure 3 Percentage of Reported Cases of Gonorrhea, by Reporting Agency, Alberta, 1988

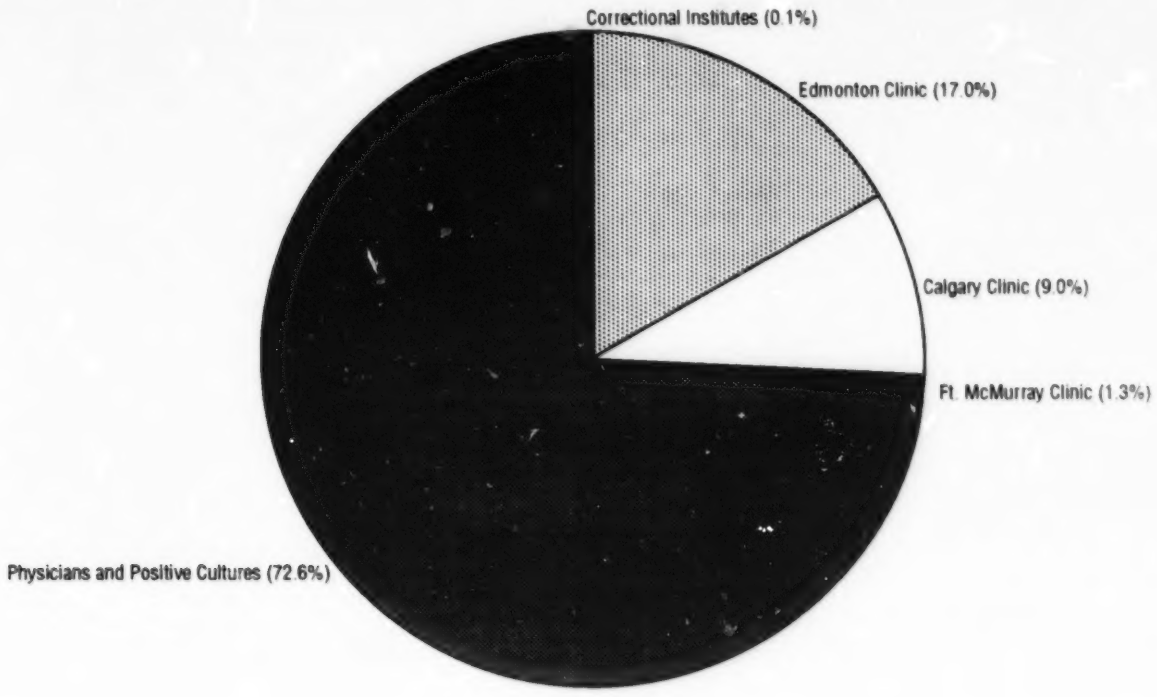


Figure 4 Non-Gonococcal Urethritis/Mucopurulent Cervicitis and Gonorrhea, Male : Female Ratio by Reporting Agency, Alberta, 1988

	NGU/MPC	Gonorrhea
Physician	1 : 2.65	1 : 1.28
Clinics	2.64 : 1	1.9 : 1

Table 4 Cases of Non-Gonococcal Urethritis/Mucopurulent Cervicitis According to Reporting Agency, by Age and Sex, Alberta 1988

	< 1		1 – 4		5 – 9		10 – 14		15 – 19		20 – 24		25 – 29		30 – 39		40 – 59		60 +		Age N/S		Total
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
Physician			2	1		1	2	47	300	1803	776	1932	439	733	285	341	80	61	1	5	64	67	**6940**
Edmonton Clinic							2	7	152	193	534	213	457	85	378	73	130	16	12		5	1	**2258**
Calgary Clinic							1	2	105	147	416	175	323	89	277	58	67	16	3	1			**1680**
Ft. McMurray Clinic							1	1	13	14	14	5	15	3	6	1	1	2	2				**78**
Correctional Institute									2		1				2								**5**
Positive Culture				2		2		14	19	153	47	187	23	74	13	34	5	3			8	22	**606**
Total			**2**	**3**	**0**	**3**	**6**	**71**	**591**	**2310**	**1788**	**2512**	**1257**	**984**	**961**	**507**	**283**	**98**	**18**	**6**	**77**	**90**	**11567**

Table 5 Cases of Confirmed Gonorrhea According to Reporting Agency, by Age and Sex, Alberta, 1988

	< 1		1 – 4		5 – 9		10 – 14		15 – 19		20 – 24		25 – 29		30 – 39		40 – 59		60 +		Age N/S		Total
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
Physician			1	2		1	2	15	140	375	295	316	154	147	94	62	35	12	2	2	15	18	**1688**
Edmonton Clinic								5	32	63	91	50	70	10	55	14	26	3	4	1	1		**425**
Calgary Clinic									17	31	61	30	46	10	32	3	4	3					**237**
Ft. McMurray Clinic										6	5	3	7		7	1	2						**31**
Correctional Institute									1		1						1						**3**
Positive Culture					1	2		1	14	24	23	27	21	11	11	5	7	1			1	3	**152**
Total			**1**	**2**	**1**	**3**	**2**	**21**	**204**	**499**	**476**	**426**	**298**	**178**	**199**	**85**	**75**	**19**	**6**	**3**	**17**	**21**	**2536**

Trends in Sexually Transmitted Diseases Since 1950

The true incidence of STD is underestimated due to under reporting and the large number of non-notifiable diseases. At minimum, non-notifiable infections such as *Herpes simplex* and *Human papilloma virus* (venereal warts) likely occur with the same frequency as reportable diseases.

With a dramatic 29% decrease in 1988, the incidence of gonorrhea continued its downward trend that began in 1982. During the peak epidemic years of 1980 and 1981, the incidence was 4 times greater than for 1988. As with gonorrhea, the number of cases as well as the incidence of syphilis continues to decline. In 1988 the rate of 4.56/100,000 population is the lowest on record.

The syndrome non-gonococcal urethritis/muco-purulent cervicitis has now been reported in Alberta for three complete years and is the most frequently reported STD. It is estimated that 40-60% of these infections are caused by the organism *Chlamydia trachomatis*. This infection as an organism specific disease distinct from the syndrome became reportable in Alberta on December 1, 1988.

Figure 5 Incidence Rate per 100,000 Population for Syphilis, Gonorrhea and Non-Gonococcal Urethritis/Mucopurulent Cervicitis, 1950 – 1988, Alberta

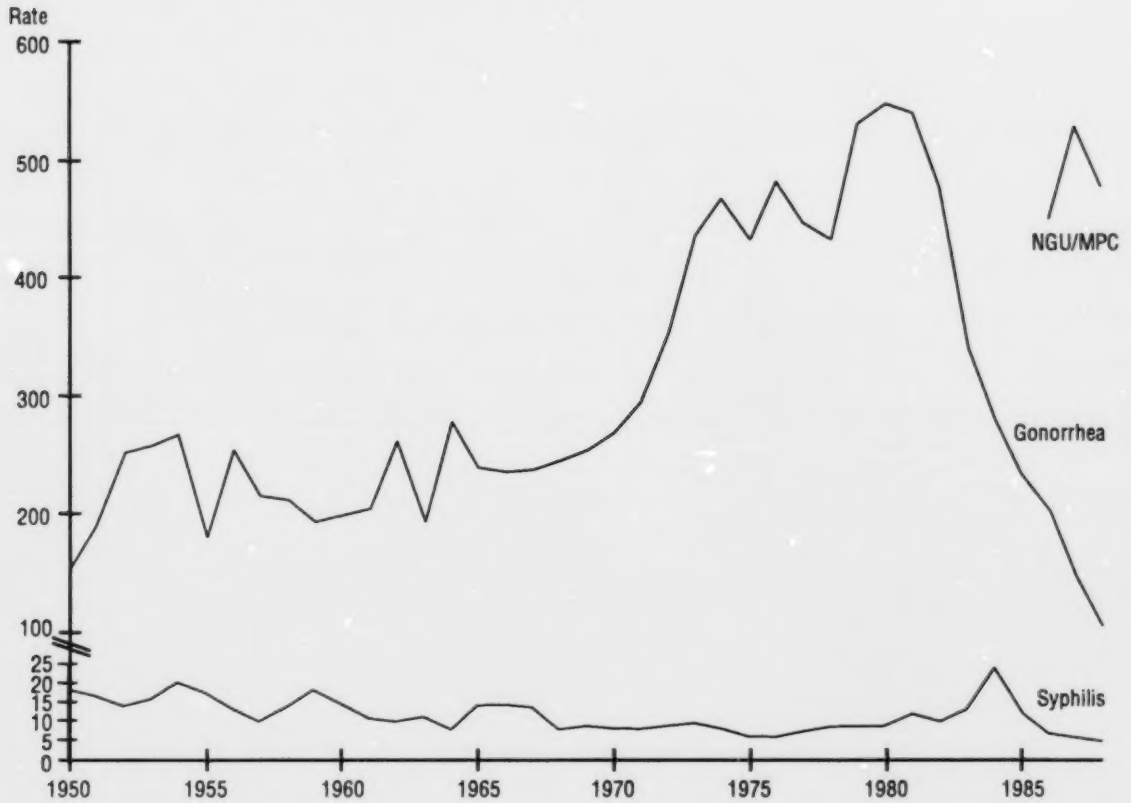


Table 6 **Syphilis, Gonorrhea and Non-Gonococcal Urethritis/Mucopurulent Cervicitis Cases and Rates per 100,000 Population, Alberta, 1950 – 1988**

Year	Gonorrhea		Syphilis		NGU/MPC	
	Cases	Rates	Cases	Rates	Cases	Rates
1950	1981	152.0	165	18.1		
1951	1777	189.1	157	16.7		
1952	2450	251.8	135	13.9		
1953	2508	257.7	159	15.7		
1954	2819	266.7	212	20.1		
1955	2862	180.1	189	17.3		
1956	2842	253.0	145	12.9		
1957	2499	215.4	112	9.7		
1958	2548	211.3	167	13.8		
1959	2407	192.9	226	18.1		
1960	2560	198.3	186	14.4		
1961	2712	203.6	140	10.5		
1962	3560	260.0	134	9.8		
1963	4106	192.7	155	11.0		
1964	3953	276.7	110	7.7		
1965	3455	238.3	203	14.0		
1966	3447	235.7	208	14.2		
1967	3527	236.7	203	13.6		
1968	3729	244.4	118	7.7		
1969	3967	254.3	133	8.5		
1970	4290	268.1	134	8.0		
1971	4806	294.1	127	7.8		
1972	5842	353.2	143	8.6		
1973	7300	434.5	158	9.2		
1974	8036	466.9	136	7.8		
1975	7341	432.4	121	5.9		
1976	8657	480.3	108	5.7		
1977	8208	446.6	132	7.2		
1978	8451	430.9	165	8.4		
1979	10730	529.9	173	8.5		
1980	11474	547.8	181	8.6		
1981	11692	540.2	255	11.8		
1982	11066	476.3	225	9.7		
1983	8021	339.7	306	13.0		
1984	6712	279.9	574	23.9		
1985	5690	233.1	290	11.9		
1986	4991	203.0	162	6.7	11051	448.7
1987	4107	146.9	132	5.5	12753	527.9
1988	2536	104.2	110	4.6	11567	475.5

Acquired Immunodeficiency Syndrome (AIDS) and Human Immunodeficiency Virus (HIV) Infection in Alberta

Since Alberta reported its first case of AIDS in 1983, there have been a cumulative total of 144 cases. Figure 6 illustrates the number of new cases diagnosed each year. During 1988 there were 50 new cases, an increase of only 14% over the 44 that occurred in 1987. As seen in Figure 6, this is a marked slowing of the rate of increase.

On a regional basis Calgary continued to have the highest new and cumulative numbers of cases as shown in Table 7.

The distribution of cumulative AIDS cases according to risk factor or behavior is shown in Figure 8. Of the 144 cases, 123 have been homosexual or bisexual males, of whom eight were also intravenous drug users. Another twelve cases have resulted from the receipt of blood or blood products. Heterosexual contact has resulted in three cases. There have been two cases for which the source of infection is not clear. Two children, diagnosed in 1983 were born to parents from an endemic area. There have been nine cases of AIDS in females of whom five acquired their infection through blood transfusion, two through heterosexual contact, one through injection drug use, and the other was one of the children (by maternal/fetal transfer).

Table 8 shows the primary diagnosis and status of the patients to date. The 42% of AIDS patients still living whose primary diagnosis was *Pneumocystis carinii* pneumonia is a noticeable improvement over the 33% living one year earlier.

Figure 6 New AIDS Cases by Year of Diagnosis, Alberta, 1983 – 1988

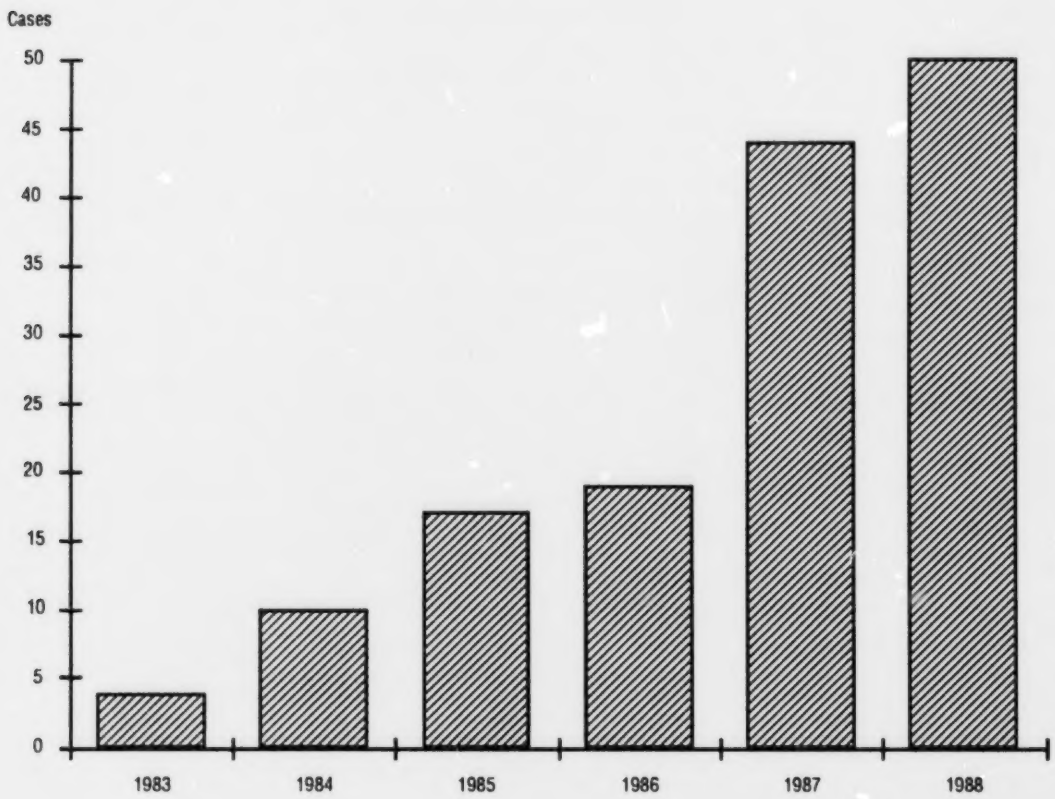


Table 7 New and Cumulative AIDS Cases by Location, Alberta, 1983 – 1988

Location	New Cases	(%)	Total Cases	(%)
Calgary	31	(62)	82	(57)
Edmonton	14	(28)	44	(31)
North*	2	(4)	8	(6)
South	3	(6)	10	(7)
Total	**50**		**144**	

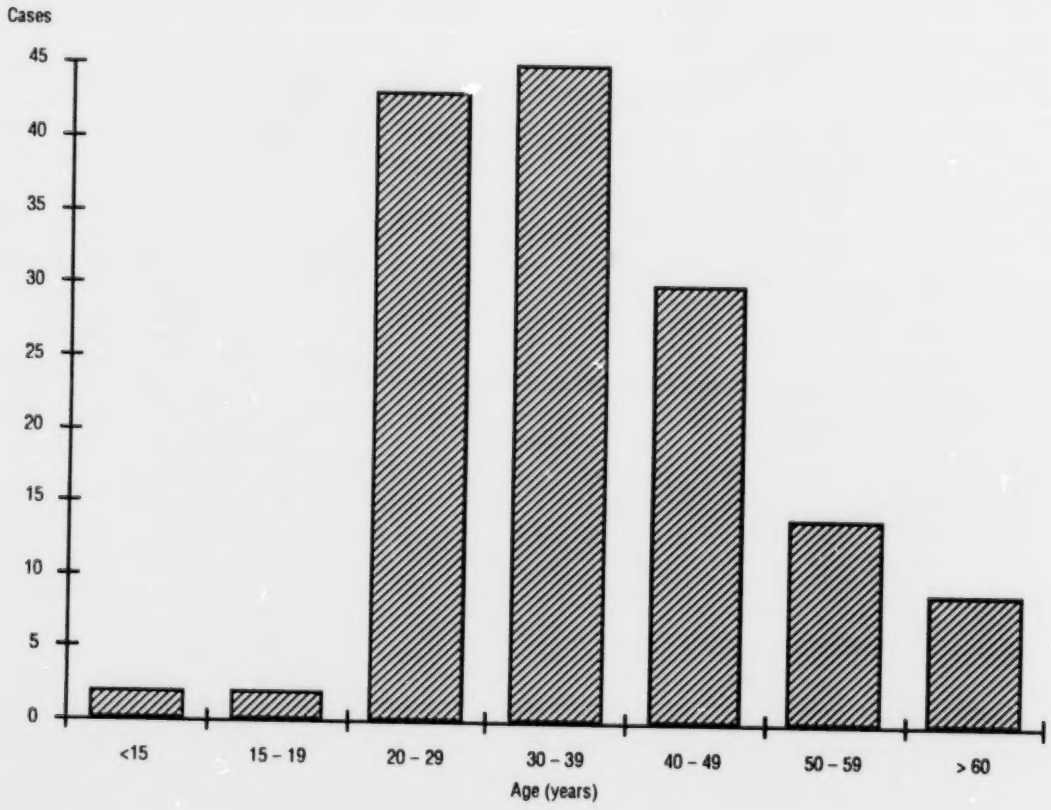
*Refers to the City of Red Deer and North

Table 8 AIDS Patients Primary Diagnosis and Status, Alberta, 1983 – 1988

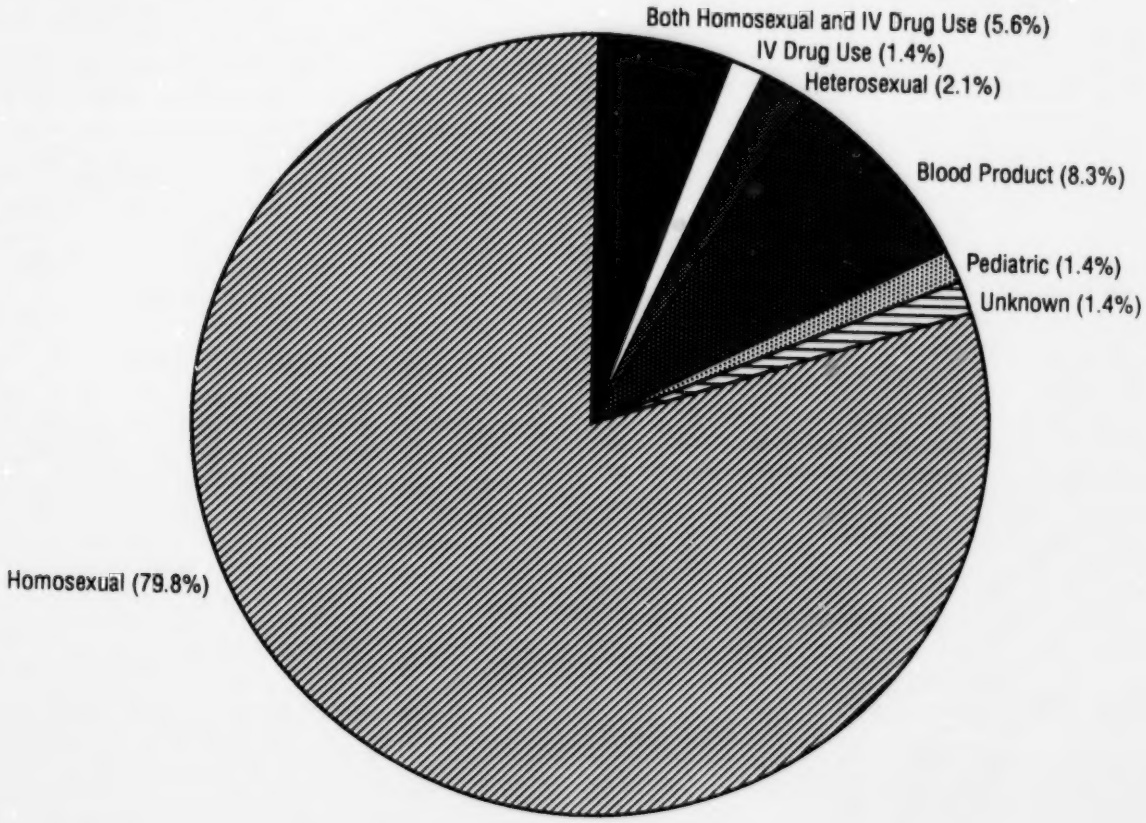
	Total Cases		Status*		
Primary Diagnosis	**Number**	**(%)**	**Dead**	**Living**	**(%)**
Pneumocystis carinii pneumonia (PCP)	77	(53)	45	32	(42)
Kaposi's Sarcoma (KS)	23	(16)	16	7	(30)
PCP and KS	7	(5)	5	2	(29)
Other Opportunistic Infections	30	(21)	20	10	(33)
Other	7	(5)	3	4	(57)
Total	**144**		**89**	**55**	**(38)**

*Figures in this table reflect additional data to end of June 1989

Figures 7 Ages of AIDS Patients, Alberta, 1983 – 1988



Figures 8 Cumulative AIDS Cases by Risk, Alberta, 1983 – 1988



Human Immunodeficiency Virus (HIV) Testing

Individuals with positive antibody tests (seropositives) who do not fit the case definition of AIDS are not reportable. However, summary test results (numbers only) are provided voluntarily to the Provincial Epidemiologist by the Red Cross Blood Transfusion Services and the provincial laboratories in Calgary and Edmonton.

Information on test results from 1986 to 1988 are given in Table 9. The dramatic increase in testing at the provincial laboratories from 1986 to 1987 and 1988 likely indicates an increased awareness and concern about AIDS. The decreasing proportion of positives reflects testing of increased numbers of persons at lower risk. In the Red Cross Blood Transfusion screening program over 400,000 donations have been screened and only 34 positives detected. It should be noted, however, that there were only two positive donors in 1988. This suggests that the Red Cross pre-donation counselling was very successful in achieving self-deferral of individuals with any risk factors.

As shown in Table 10, homosexual or bisexual exposure was the principal reason for testing indicated on the laboratory requisitions in 1988 (11% of total tests), whereas concern about previous blood transfusions was the most frequently specified reason for testing in 1987 (22% of total tests). However, it should be noted that over the three year period, a mean of 65% of the testing was for "other" or unstated reasons, thus considerably reducing the value of the serological reports for purposes of epidemiological surveillance of risk factors. The results apply only to those who chose to be tested for specific reasons and cannot be generalized either to those with particular risk factors or to the general population. Because HIV seropositivity is not reportable, some persons may have been tested several times, but this would cause only a small inflation of the numbers. The overall rate of about 14% seropositivity for those with homosexual/bisexual exposure may not be representative of this group, since those tested were self-selected. However, the decrease in positivity from 21% in 1986 to 13% in 1988 does suggest testing and counselling were being sought earlier, at a time when intervention or behaviour modification may still prevent infection.

Again while no generalizations are possible for injection drug users, HIV infection has been introduced into this group. The seropositivity rates are comparable to surveys of non-institutionalized injection drug users in other parts of the country.

Table 9 Results of HIV Antibody Testing, Alberta, 1986 – 1988

Year	Testing Agency	Total Tests	Positives	
			Number	Percent
1986	Red Cross	156,304	26	0.017
	Provincial Lab	2,156	212	9.83
1987	Red Cross	122,443	6	0.005
	Provincial Lab	12,862	319	2.48
1988	Red Cross	123,782	2	0.002
	Provincial Lab	12,786	232	1.81
Totals	**Red Cross**	**402,529**	**34**	**0.0008**
	Provincial Lab	**27,804**	**763**	**2.74**

Table 10 Results of HIV Antibody Tests, by Provincial Laboratories, by Risk Group, Alberta, 1986 – 1988

Risk Factor	Total Tests Year		Positives Number	Percent
Homo/Bisexual Experience	1986	766	163	21.3
	1987	1,686	203	12.0
	1988	1,430	185	12.9
	Total	**3,882**	**551**	**14.2**
Blood Transfusion	1986	91	2	2.2
	1987	2,796	28	1.0
	1988	818	8	1.0
	Total	**3,705**	**38**	**1.0**
Hemophilia	1986	6	5	83.3
	1987	24	8	33.3
	1988	34	8	23.5
	Total	**64**	**21**	**32.8**
Injection Drug Use	1986	Unknown	2	Unknown
	1987	975	5	0.5
	1988	1,173	4	0.3
	Total	**N/A**	**11**	**N/A**
Other* and Unstated	1986	1,293	76	5.9
	1987	7,381	80	1.1
	1988	9,331	26	0.3
	Total	**18,005**	**182**	**1.0**

*Other includes heterosexual exposure, endemic areas, anxiety, symptoms, etc.

Contact Information and Investigations

Appropriate case management of patients with STD includes eliciting information on sexual partners who may be infected. Location, investigation, and treatment of these partners is an important component of the program to control these diseases.

Table 11 outlines both the total number of sexual contacts that were named by patients utilizing the services of the various reporting agencies and the number of contacts for whom sufficient information was obtained. A significant difference is apparent between reporting agencies in the number of contacts elicited per notification. This is seen in both total contacts listed and contacts listed with sufficient information for investigation. The STD clinics elicit 1 and 0.8 contacts respectively whereas physicians elicit only 0.5 and 0.3 contacts respectively.

Locating sexual partners can be accomplished in one of two ways. Nurses specifically trained in contact tracing can actively attempt to locate the partner and arrange for appropriate investigation and/or treatment (Active Contact Tracing). Alternatively the STD patient can notify their sexual partners and advise them to seek medical attention (Passive Contact Tracing). STD Control actively traces all contacts of gonorrhea and syphilis where there is sufficient information for investigation. Young women who are contacts of NGU and *Chlamydia trachomatis* are also actively traced due to their high risk of developing complications to this untreated infection. Persons who do not fall into these categories are encouraged to undertake passive contact tracing.

As demonstrated in Table 12, subsequent to the decline in the incidence of gonorrhea and syphilis, there was a decrease from 1987 in the number of contact investigations carried out by the STD Clinics. Both Calgary and Mobile experienced an expected 24% decrease over 1987. However, the decrease of 60% for Edmonton and 74% for Fort McMurray cannot be explained simply by a decrease in disease incidence. For both clinics some change in data collection occurred. Of the 1721 contacts that were actively traced, 1427 or 83% were located. Differences in percentage of located contacts may be attributable to different populations.

All positive laboratory tests for syphilis where there is no record of treatment are investigated. As well investigations are carried out for identified high risk individuals with laboratory confirmed *Neisseria gonorrhoeae* and *Chlamydia trachomatis* where treatment has not been reported. In 90.3% of these situations the individuals are located and treated appropriately (Table 12).

Table 11 Number of Contacts Listed on Notifications Received for Confirmed Cases of Gonorrhea, NGU/MPC, Syphilis, Alberta, 1988

Reporting Agency	Total Notifications Received	Contacts — Total Listed on Notifications	Contacts Sufficient Information for Investigations
Physicians	8672	4805	3057
Edmonton Clinic	2721	2709	2002
Calgary Clinic	1945	1884	1733
Ft. McMurray Clinic	109	108	61
Correctional Institutes	8	7	2
Total	**13455**	**9513**	**6855**

Table 12 Number and Outcome of Investigations Carried Out by Sexually Transmitted Disease Clinics, Alberta, 1988

Clinics	Contact Investigations			Positive Test Investigations*		Total
	Located	Closed/ Unlocated	Remaining Open	Completed	Remaining Open	
Edmonton	314 (72%)	105	17	534	18	988
Calgary	408 (84%)	50	28	192	26	704
Ft. McMurray	29 (69%)	11	2	40	0	82
Mobile	676 (89%)	56	25	488	78	1323
Total	**1427**	**222**	**72**	**1254**	**122**	**3097**

*Follow-up to Positive Cultures and Serology

Sexually Transmitted Disease Clinics — Patient Utilization

An overall decrease in clinic utilization of 14.2% occurred in 1988. Although the largest number of patient visits were recorded at the Edmonton Clinic, this was an 18.7% decrease from 1987. Calgary Clinic also recorded a decline of 5.2% and Fort McMurray a 42% decrease. Similarly the number of new patients accessing the clinics was down 15.2%. The mobile unit records visits made by the nurse investigators to patients for the purpose of arranging testing, treatment and/or follow-up. During six months of 1988 this unit operated one nurse short which partially accounts for a 38% decrease in the number of visits to patients.

During January 1988 routine premarital syphilis serology as a requirement for obtaining a marriage license was discontinued and is therefore not reported as part of the clinic workload.

It is difficult to effectively report, through statistics, the tremendous impact that AIDS and HIV infection has had on the STD clinics. However, an increase in the number of HIV antibody tests done in the three clinics gives some indication of the numbers of patients attending these clinics with AIDS and HIV related concerns. Although not as dramatic an increase as in 1987, the number of tests done in the Edmonton Clinic increased by 56% to 949 from 609. During 1988 Calgary Clinic increased the number of nurses trained to provide pre-test counselling. This is reflected in an 84% increase in the number of HIV antibody tests carried out.

Table 13 Patient Utilization of STD Clinics, Alberta, 1988

Patient Visits	Edmonton	Calgary	Ft. McMurray	Mobile
New Admissions	3579	3250	220	0
Total Visits	13550	10711	557	355

Table 14 Serologic Test for Syphilis and HIV Antibody

Serological Tests	Edmonton	Calgary	Ft. McMurray	Mobile
Syphilis:				
Clinic Patients	6801	5300	258	17
HIV Antibody:				
Male	494	421	12	0
Female	455	189	10	0
Total	**949**	**610**	**22**	**0**

Sexually Transmitted Disease Clinic Laboratory Investigations

Table 15 provides an overview of the most frequently performed laboratory procedures carried out in each clinic. Each STD clinic has on site access to microscopes, and staff perform methylene blue staining of urethral smears, gram staining of urethral and endocervical smears, darkfield microscopy, and microscopy for *Trichomonas vaginalis*. All other laboratory procedures are carried out by the provincial laboratories in Calgary and Edmonton.

Although the clinic in Edmonton sees 21% more patients than the clinic in Calgary, almost identical numbers of urethral smears are done for non-gonococcal urethritis and gonorrhea. However, the percentage of positives for Edmonton is greater than for Calgary reflecting the higher disease incidence in Edmonton.

Table 15 Sexually Transmitted Disease Clinic Laboratory Investigations, Alberta, 1988

	Edmonton Clinic		Calgary Clinic		Ft. McMurray Clinic		Total	
	Taken	Positive	Taken	Positive	Taken	Positive	Taken	Positive
Urethral Smears for Non-Gonococcal Urethritis	4701	1994	4699	1317	166	32	9566	3343
Urethral Smears for *N. gonorrhoeae*	4701	225	4699	118	166	25	9565	368
Gonorrhea Cultures								
Male								
Urethral	4781	249	3946	146	182	14	8909	409
Rectal	235	6	204	16	0	0	439	22
Pharyngeal	2331	16	3177	29	98	2	5606	47
Total	**7347**	**271**	**7327**	**191**	**280**	**16**	**14954**	**478**
Gonorrhea Cultures								
Female								
Cervix/Urethra	5931	230	4160	104	155	7	10246	341
Rectal	5759	92	2392	53	139	3	8290	148
Pharyngeal	4430	78	1782	64	90	0	6302	142
Total	**16120**	**400**	**8334**	**221**	**384**	**10**	**24838**	**631**
Darkfield microscopy — *T. pallidum*	46	1	7	1	0	0	53	2
Identification — *C. trachomatis*	7278	576	6826	679	327	27	14431	1282
Culture — *Herpes simplex*	1902	259	1009	244	46	11	2957	514
Culture — *Candida albicans*	2305	338	1739	387	324	42	4368	767
Microscopy — *Trichomonas vaginalis*	2270	132	1745	72	308	10	4323	214
Culture — *Gardnerella vaginalis*	269	74	445	304	90	29	804	407

Education Unit Activities

The education unit continued to provide resource personnel for consultation and provision of STD information to a wide variety of audiences. A total of 703 presentations were given, resulting in 1116 hours of STD information disseminated to Albertans. Compared to 1987, the number of sessions given and the number attending sessions has dropped slightly. The addition of the toll-free AIDS information line and the reduction of 1 education staff member for 10 months affected the number of requests that could be met.

The focus of the education unit continued to be to provide information to teachers and others responsible for teaching in Alberta classrooms. The response has been encouraging with an increase in number of sessions of over 300%. 2773 teachers attended information sessions, a four fold increase over 1987. A total of 174.5 hours of inservice was provided to teachers throughout the province. Since 1987 there has been a reduction of 47.3% in school presentations given by STD staff. Many more students are now receiving information from their own teachers within the framework of the sexuality themes of the health curriculum at both the junior and senior high school levels.

The publics concern regarding HIV infection/AIDS and a renewed awareness of other STD resulted in a 32% increase in the number of presentations to general audiences. Of these presentations, 67 were given in the workplace. HIV/AIDS infection continued to be a focus for information requests and accounted for 188 or 26.7% of presentations dealing exclusively with that subject.

The education unit is responsible for both the STD information line and the province wide toll-free AIDS information line. Nurse educators and clinic nurses in Edmonton and Calgary respond to calls on the general information line. There were 3587 calls to Edmonton or a total of 294.4 hours, and 3388 calls to Calgary for 205.7 hours. Of the total 6975 calls received, 1160 or 16.6% of the callers requested AIDS information only. This decrease in HIV/AIDS information on the STD information line of 15.4% from 1987, reflects the addition of the toll-free AIDS information line.

From January to November 1988 the AIDS line was answered by nurse educators or clinic nurses at STD Control Edmonton, during regular office hours. During non-business hours, basic AIDS information was provided on a taped message.

On November 4, 1988, the AIDS information line was changed to the Interactive Tone Talker System. After the initial message that contained basic HIV/AIDS information, the caller had the option of accessing further disease information if a touch tone phone was available. The additional information concerned transmission, risk activities, prevention and testing as well as symptoms and signs of HIV infection. The caller could also chose to speak to a nurse educator or clinic nurse by calling collect to STD Control in Edmonton.

Total calls received on the toll-free line in 1988 were 13,375 Of these, 4,335 or 32.4% were handled by a nurse. The Interactive Tone Talker System recorded 2209 completed calls. Nurse educators or clinic nurses were required to give additional information on 138 calls or 6.2%. The nurse educators and clinic nurses spent 282 hours giving information directly to the Alberta public on the AIDS information line.

Figure 9 STD Information Calls to Nurse Educators

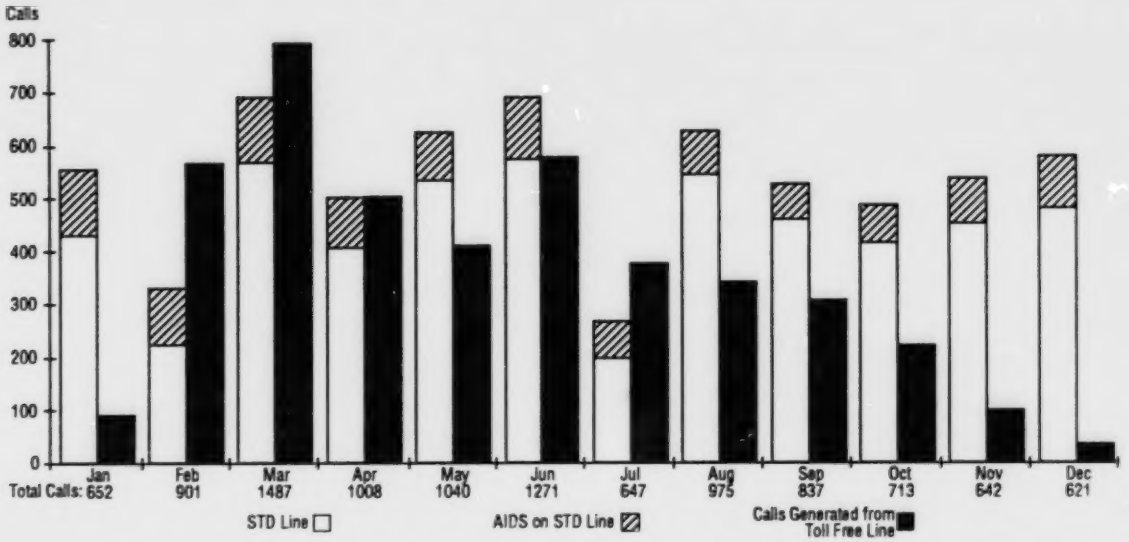


Figure 10 Total Calls to Toll Free AIDS Line

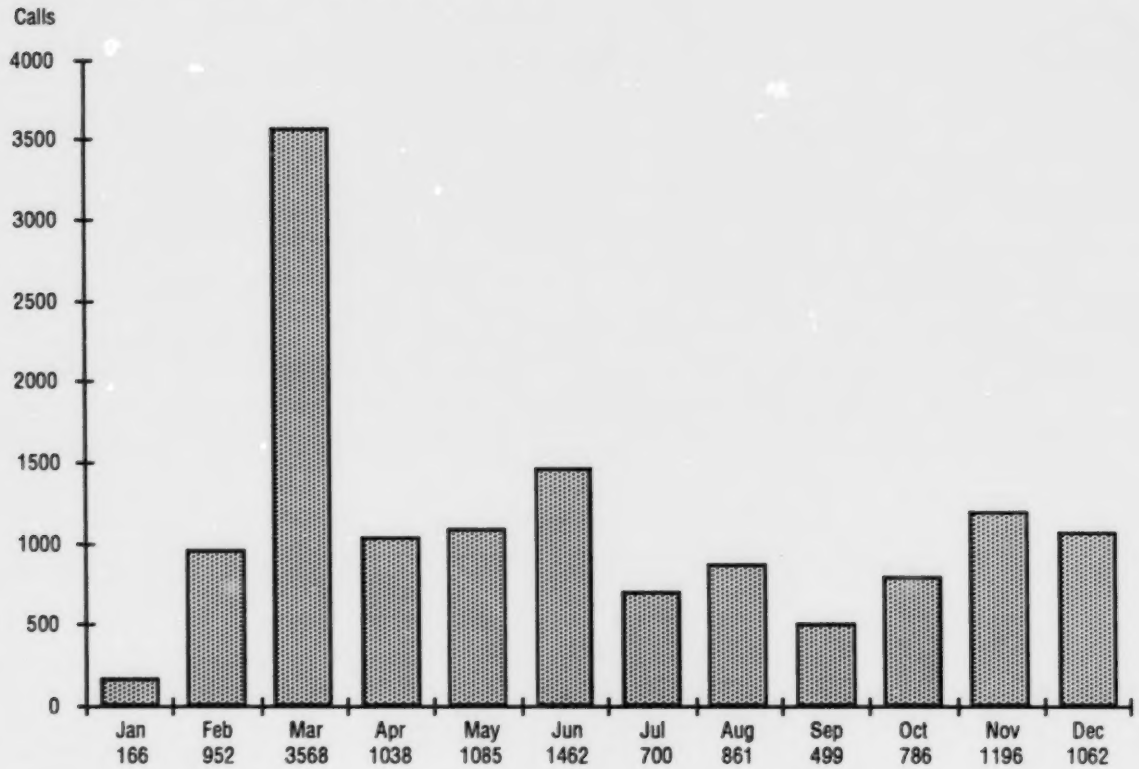


Table 16 STD Presentations, Alberta, 1988

Type of Presentation	Number	No. of Participants	Time in Hours
By Education Unit:			
Schools:			
– Junior High	144	5055	160.3
– Senior High	72	2617	97.0
– College	32	1540	63.3
– Nursing/Health Care	28	1053	70.4
Inservice:			
– Hospitals	76	1695	109.0
– Health Units	13	307	35.5
– Teachers	83	2773	174.5
– Workplace	67	1684	112.0
*Others	26	332	36.0
Life Skills/Adult Improvement	58	1050	67.0
General Public	74	2127	144.0
Correctional Institutes (staff & inmates)	30	431	47.2
Total:	**703**	**20664**	**1,116.2**
**By Medical staff			
– Professional Groups	72		
– Media	5		
– Interviews with Media	169		
Total:	**246**		

*Others: Government & Non-Government agencies providing service to the public.

**One person added to medical staff effective April 1, 1988

Individuals attending STD Clinic for Clinical Experience			
– Physicians/Medical Students	105		
– Nursing Students	15		
Total:	**120**		

Research — Clinical Investigation Unit

This is the first full year of operation for the Clinical Investigation Unit (CIU) that opened in the fall of 1987. The unit is a microbiology laboratory with the capability to culture *Neisseria gonorrhoeae*, *Chlamydia trachomatis*, *Herpes simplex*, *Mycoplasmas*, *Gardnerella vaginalis*, *Candida albicans* and *Trichomonas vaginalis*. The laboratory is staffed by one full time technician.

Attached to the Edmonton STD Clinic, the laboratory provides support for research into new drug treatment modalities. As well a large collection of cultures can be stored permanently for in vitro studies. These studies are necessary to test the efficacy of a drug before any clinical trial begins.

During 1988 the following research projects were undertaken or completed by the Clinical Investigation Unit and/or the STD Clinics:

1. In vitro study of lomefloxacin, a new fluoroquinolone, against isolates of *N.gonorrhoeae* and *C.trachomatis*
   - Principal Investigator — Dr. Barbara Romanowski
   - Sponsor — G.D. Searle and Company of Canada
   - Participation — CIU, Edmonton STD Clinic, Kasper Laboratory
2. Comparison of results obtained by two testing methods for *C. trachomatis*-cell culture and Chlamydiazyme (Abbott) on patients attending the STD Clinic
   - Principal Investigator — Ms. Hazel Talbot CIU
   - Sponsor — STD Control Alberta
   - Participation — Edmonton STD Clinic, CIU
3. Canadian Collaborative Multi Centre HIV Seroprevalence Study
   - Principal Investigator — Dr. Barbara Romanowski
   - Sponsor — NHRDP
   - Participation — Edmonton STD Clinic, CIU
4. National Survey to Determine the Clinical and Biological Factors Influencing *N. gonorrhoeae* Infections and Treatment in children and Adults
   - Principal Investigator — Dr. J.R. Dillon, STD Lab LCDC
   - Sponsor — Laboratory Centre for Disease Control, Health and Welfare Canada
   - Participation — Edmonton and Calgary STD Clinics
5. National Sentinel STD Clinic Surveillance System
   - Principal Investigator — Dr. A.G. Jessamine — STD Division LCDC
   - Sponsor — None
   - Participation — Edmonton and Calgary STD Clinic
6. Serologic Responses of Patients Treated for Syphilis by Sexually Transmitted Disease Control, Alberta Community and Occupational Health from January 1, 1981 to December 31, 1987
   - Principal Investigator — Dr. E.J. Love Community Health Sciences University of Calgary
   - Sponsor — Laboratory Centre for Disease Control, Health and Welfare Canada
   - Participation — STD Control Alberta

Cases of Notifiable Diseases, by Age and Sex, Alberta, 1988

	< 1		1 – 4		5 – 9		10 – 14		15 – 19		20 – 24		25 – 29		30 – 39		40 – 59		60 +		Age N/S		Total
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
Gonorrhea			1	2	1	3	2	21	204	499	476	426	298	178	199	85	75	19	6	3	17	21	2536
NGU/MPC			2	3		3	6	71	591	2310	1788	2512	1257	984	961	507	283	98	18	6	77	90	11567
Chancroid																							0
Syphilis (Total)									6	2	9	2	10	4	26	7	17	10	9	8			110
Primary									2	2	2	1	2		4	1	2		1				17
Secondary									3		3			1	2	2	2						13
Early Latent											1		2	1	2		2	1	1				10
Late Latent									1		3	1	6	2	17	4	11	8	6	8			67
Late Unspecified																							
Neuro Syphilis															1			1	1				3
Acquired Stage Unknown																							
Congenital																							0
Total			3	5	1	6	8	92	807	2811	2273	2940	1565	1166	1186	599	375	127	33	17	94	111	14213

Gonorrhea	Male	1279	NGU/MPC:	Male	4983	Syphilis	Male	77			
	Female	1257		Female	6584		Female	33			